

SEQUENCE LISTING

<110> Thomas Buehler, Reto Andreas Gadiant, Reinhard Korn, Rao Movva
 <120> pCAR and its uses
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| ggggagggct | gcacacgcgg | accccgctcc | ccctcccca | caaagcactg | tggaatcaaa | 1860 |
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| tgagcccccac | gttctgcttc | actctcccca | tctccccccc | ctccccaccc | ccaattttgt | 1980 |
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| cagcccccaa | gcttaaggtg | cacggcccac | gtggggacta | gtgccacc | atg gcg ctc | | 3237 |
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| ctg ctg tgc ttc gtg ctc | ctg tgc gga gtc gcg gat ctc acc aga agt | | | | | | 3285 |
| Leu Leu Cys Phe Val Leu | Leu Cys Gly Val Ala Asp Leu Thr Arg Ser | | | | | | |
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| ttg agt atc act act cct | gaa cag atg att gaa aag gcc aaa ggg gaa | | | | | | 3333 |
| Leu Ser Ile Thr Thr Pro | Glu Gln Met Ile Glu Lys Ala Lys Gly Glu | | | | | | |
| 20 | 25 | 30 | | | | 35 | |
| act gcc tat ttg cca tgc | aga ttt acc ctg ggt cca gaa gac cag ggg | | | | | | 3381 |
| Thr Ala Tyr Leu Pro Cys | Arg Phe Thr Leu Gly Pro Glu Asp Gln Gly | | | | | | |
| | 40 | 45 | | | | 50 | |
| ccg ctg gac atc gag tgg | ctg ctg tca cca gct gat aat cag aag gtg | | | | | | 3429 |
| Pro Leu Asp Ile Glu Trp | Leu Leu Ser Pro Ala Asp Asn Gln Lys Val | | | | | | |
| | 55 | 60 | | | | 65 | |
| gat caa gtg att att tta | tat tct gga gac aaa att tat gac gac tac | | | | | | 3477 |
| Asp Gln Val Ile Ile Leu | Tyr Ser Gly Asp Lys Ile Tyr Asp Asp Tyr | | | | | | |
| | 70 | 75 | | | | 80 | |
| tac caa gat ctg aaa gga | cga gta cat ttt aca agt aat gat ctc aaa | | | | | | 3525 |
| Tyr Gln Asp Leu Lys Gly | Arg Val His Phe Thr Ser Asn Asp Leu Lys | | | | | | |
| | 85 | 90 | | | | 95 | |
| tca ggt gat gca tca ata | aat gta aca aat cta cag ttg tca gat att | | | | | | 3573 |
| Ser Gly Asp Ala Ser Ile | Asn Val Thr Asn Leu Gln Leu Ser Asp Ile | | | | | | |
| 100 | 105 | 110 | | | | 115 | |
| ggc aca tat cag tgc aaa | gtg aaa aag gct cct ggt gtt gga aat aag | | | | | | 3621 |
| Gly Thr Tyr Gln Cys Lys | Val Lys Lys Ala Pro Gly Val Gly Asn Lys | | | | | | |
| | 120 | 125 | | | | 130 | |
| aag att cag ctg aca gtt | ctt ctt aag cct tca ggt aca aga tgt tat | | | | | | 3669 |
| Lys Ile Gln Leu Thr Val | Leu Leu Lys Pro Ser Gly Thr Arg Cys Tyr | | | | | | |
| | 135 | 140 | | | | 145 | |
| gtt gat gga tca gaa gaa | att gga aat gac ttt aaa cta aaa tgt gaa | | | | | | 3717 |
| Val Asp Gly Ser Glu Glu | Ile Gly Asn Asp Phe Lys Leu Lys Cys Glu | | | | | | |
| | 150 | 155 | | | | 160 | |
| cca aaa gaa ggt tca ctc | cca tta cta tat gaa tgg cag aaa ttg tcc | | | | | | 3765 |
| Pro Lys Glu Gly Ser Leu | Pro Leu Leu Tyr Glu Trp Gln Lys Leu Ser | | | | | | |
| | 165 | 170 | | | | 175 | |
| aat tca cag aag ctg ccc | acc ttg tgg tta gca gaa atg act tca cct | | | | | | 3813 |
| Asn Ser Gln Lys Leu Pro | Thr Leu Trp Leu Ala Glu Met Thr Ser Pro | | | | | | |
| 180 | 185 | 190 | | | | 195 | |
| gtt ata tct gta aaa aat | gcc tct act gaa tac tct ggg aca tac agc | | | | | | 3861 |
| Val Ile Ser Val Lys Asn | Ala Ser Thr Glu Tyr Ser Gly Thr Tyr Ser | | | | | | |

Ser Asp Ile Gly Thr Tyr Gln Cys Lys Val Lys Lys Ala Pro Gly Val
115 120 125

Gly Asn Lys Lys Ile Gln Leu Thr Val Leu Leu Lys Pro Ser Gly Thr
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Arg Cys Tyr Val Asp Gly Ser Glu Glu Ile Gly Asn Asp Phe Lys Leu
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Lys Cys Glu Pro Lys Glu Gly Ser Leu Pro Leu Leu Tyr Glu Trp Gln
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Lys Leu Ser Asn Ser Gln Lys Leu Pro Thr Leu Trp Leu Ala Glu Met
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Thr Ser Pro Val Ile Ser Val Lys Asn Ala Ser Thr Glu Tyr Ser Gly
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Thr Tyr Ser Cys Thr Val Lys Asn Arg Val Gly Ser Asp Gln Cys Leu
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Leu Arg Leu Asp Val Val Pro Pro Ser Asn Arg Ala Gly Thr Ile Ala
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acc aga agt ttg agt atc act act cct gaa cag atg att gaa aag gcc 96
Thr Arg Ser Leu Ser Ile Thr Thr Pro Glu Gln Met Ile Glu Lys Ala
20 25 30

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| Lys Gly Glu Thr Ala Tyr Leu Pro Cys Arg Phe Thr Leu Gly Pro Glu | |
| 35 40 45 | |
| gac cag ggg ccg ctg gac atc gag tgg ctg ctg tca cca gct gat aat | 192 |
| Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Leu Ser Pro Ala Asp Asn | |
| 50 55 60 | |
| cag aag gtg gat caa gtg att att tta tat tct gga gac aaa att tat | 240 |
| Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser Gly Asp Lys Ile Tyr | |
| 65 70 75 80 | |
| gac gac tac tac caa gat ctg aaa gga cga gta cat ttt aca agt aat | 288 |
| Asp Asp Tyr Tyr Gln Asp Leu Lys Gly Arg Val His Phe Thr Ser Asn | |
| 85 90 95 | |
| gat ctc aaa tca ggt gat gca tca ata aat gta aca aat cta cag ttg | 336 |
| Asp Leu Lys Ser Gly Asp Ala Ser Ile Asn Val Thr Asn Leu Gln Leu | |
| 100 105 110 | |
| tca gat att ggc aca tat cag tgc aaa gtg aaa aag gct cct ggt gtt | 384 |
| Ser Asp Ile Gly Thr Tyr Gln Cys Lys Val Lys Lys Ala Pro Gly Val | |
| 115 120 125 | |
| gga aat aag aag att cag ctg aca gtt ctt ctt aag cct tca ggt aca | 432 |
| Gly Asn Lys Lys Ile Gln Leu Thr Val Leu Leu Lys Pro Ser Gly Thr | |
| 130 135 140 | |
| aga tgt tat gtt gat gga tca gaa gaa att gga aat gac ttt aaa cta | 480 |
| Arg Cys Tyr Val Asp Gly Ser Glu Glu Ile Gly Asn Asp Phe Lys Leu | |
| 145 150 155 160 | |
| aaa tgt gaa cca aaa gaa ggt tca ctc cca tta cta tat gaa tgg cag | 528 |
| Lys Cys Glu Pro Lys Glu Gly Ser Leu Pro Leu Leu Tyr Glu Trp Gln | |
| 165 170 175 | |
| aaa ttg tcc aat tca cag aag ctg ccc acc ttg tgg tta gca gaa atg | 576 |
| Lys Leu Ser Asn Ser Gln Lys Leu Pro Thr Leu Trp Leu Ala Glu Met | |
| 180 185 190 | |
| act tca cct gtt ata tct gta aaa aat gcc tct act gaa tac tct ggg | 624 |
| Thr Ser Pro Val Ile Ser Val Lys Asn Ala Ser Thr Glu Tyr Ser Gly | |
| 195 200 205 | |
| aca tac agc tgt acc gtg aaa aac aga gtg ggc tct gat cag tgc ctg | 672 |
| Thr Tyr Ser Cys Thr Val Lys Asn Arg Val Gly Ser Asp Gln Cys Leu | |
| 210 215 220 | |
| ctt cgc ctg gat gtg gtt cct cct tca aat aga gct gga aca att gca | 720 |
| Leu Arg Leu Asp Val Val Pro Pro Ser Asn Arg Ala Gly Thr Ile Ala | |
| 225 230 235 240 | |
| gga gct gtt ata gga gtt ttg ctt gct cta gtg ctc att ggt ctt att | 768 |
| Gly Ala Val Ile Gly Val Leu Leu Ala Leu Val Leu Ile Gly Leu Ile | |
| 245 250 255 | |
| gtg ttt tgc tgt cat aaa aag cgc aga gaa gaa aaa tac gaa aaa gaa | 816 |
| Val Phe Cys Cys His Lys Lys Arg Arg Glu Glu Lys Tyr Glu Lys Glu | |
| 260 265 270 | |
| gtg cat cat gat atc agg gaa gac gtg cct cct ccg aag agc aga acg | 864 |

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| Val | His | His | Asp | Ile | Arg | Glu | Asp | Val | Pro | Pro | Pro | Lys | Ser | Arg | Thr | | |
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| tcc | act | gcc | aga | agc | tac | ctc | ggc | agc | aac | cac | tcg | tcc | ctg | gga | tcc | 912 | |
| Ser | Thr | Ala | Arg | Ser | Tyr | Leu | Gly | Ser | Asn | His | Ser | Ser | Leu | Gly | Ser | | |
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| atg | tct | cct | tcc | aac | atg | gaa | ggc | tat | tcc | aag | act | cag | tat | aac | cag | 960 | |
| Met | Ser | Pro | Ser | Asn | Met | Glu | Gly | Tyr | Ser | Lys | Thr | Gln | Tyr | Asn | Gln | | |
| | 305 | | | | 310 | | | | | 315 | | | | | 320 | | |
| gta | cca | agc | gaa | gac | ttt | gaa | cgc | gct | cct | cag | agt | cca | act | ctc | ccg | 1008 | |
| Val | Pro | Ser | Glu | Asp | Phe | Glu | Arg | Ala | Pro | Gln | Ser | Pro | Thr | Leu | Pro | | |
| | | | | 325 | | | | | 330 | | | | | | 335 | | |
| ctc | gct | aag | gta | gct | gcc | cct | aat | ctc | agc | cgg | atg | gga | gcg | gtg | cct | 1056 | |
| Leu | Ala | Lys | Val | Ala | Ala | Pro | Asn | Leu | Ser | Arg | Met | Gly | Ala | Val | Pro | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | |
| gtg | atg | att | cca | gcc | cag | agc | aag | gac | ggg | tcc | ata | gta | taa | | | 1098 | |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Ser | Leu | Ser | Ile | Thr | Thr | Pro | Glu | Gln | Met | Ile | Glu | Lys | Ala |
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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Gly | Glu | Thr | Ala | Tyr | Leu | Pro | Cys | Arg | Phe | Thr | Leu | Gly | Pro | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Gln | Gly | Pro | Leu | Asp | Ile | Glu | Trp | Leu | Leu | Ser | Pro | Ala | Asp | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Lys | Val | Asp | Gln | Val | Ile | Ile | Leu | Tyr | Ser | Gly | Asp | Lys | Ile | Tyr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Asp | Tyr | Tyr | Gln | Asp | Leu | Lys | Gly | Arg | Val | His | Phe | Thr | Ser | Asn |
| | | | | 85 | | | | 90 | | | | | | 95 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Lys | Ser | Gly | Asp | Ala | Ser | Ile | Asn | Val | Thr | Asn | Leu | Gln | Leu |
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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asp | Ile | Gly | Thr | Tyr | Gln | Cys | Lys | Val | Lys | Lys | Ala | Pro | Gly | Val |
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Arg Cys Tyr Val Asp Gly Ser Glu Glu Ile Gly Asn Asp Phe Lys Leu
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Lys Leu Ser Asn Ser Gln Lys Leu Pro Thr Leu Trp Leu Ala Glu Met
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Thr Ser Pro Val Ile Ser Val Lys Asn Ala Ser Thr Glu Tyr Ser Gly
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Thr Tyr Ser Cys Thr Val Lys Asn Arg Val Gly Ser Asp Gln Cys Leu
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Leu Arg Leu Asp Val Val Pro Pro Ser Asn Arg Ala Gly Thr Ile Ala
225 230 235 240

Gly Ala Val Ile Gly Val Leu Leu Ala Leu Val Leu Ile Gly Leu Ile
245 250 255

Val Phe Cys Cys His Lys Lys Arg Arg Glu Glu Lys Tyr Glu Lys Glu
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Val His His Asp Ile Arg Glu Asp Val Pro Pro Pro Lys Ser Arg Thr
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Ser Thr Ala Arg Ser Tyr Leu Gly Ser Asn His Ser Ser Leu Gly Ser
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Met Ser Pro Ser Asn Met Glu Gly Tyr Ser Lys Thr Gln Tyr Asn Gln
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Val Pro Ser Glu Asp Phe Glu Arg Ala Pro Gln Ser Pro Thr Leu Pro
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Leu Ala Lys Val Ala Ala Pro Asn Leu Ser Arg Met Gly Ala Val Pro
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Val Met Ile Pro Ala Gln Ser Lys Asp Gly Ser Ile Val
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